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AUTHOR Peterson, Bernadine H.
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ABSTRACT

Using a graduate credit and a noncredit home economics course, this study of the University of Wisconsin Educational Telephone Network (ETN) investigated whether telephone instruction can be effective in adult education, and how adults would react to this medium of remote, off campus extension teaching. The graduate course was divided between an experimental group (telephone) and a control group (on campus, face to face instruction). The ETN noncredit seminar consisted of three two-hour sessions, one a week. Tentative evaluations led to these conclusions: (1) ways of handling telephone course content and format need to be identified and implemented; (2) participants and program lecturers need preparation for the mechanical aspect of such experiences; (3) certain types of individuals function better with articulated media than others do; (4) visual aids in telephone instruction enhance presentations and ease remoteness; (5) certain skills can be learned which enable persons to increase their effectiveness under telephone instruction; (6) telephone instruction is useful for persons scattered over wide geographical areas, and its use should be further refined, expanded, and evaluated. (author/ly)

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ADULT EDUCATION BY MEANS OF TELEPHONE

by Dr. Bernadine H. Peterson
Program Leader, Family Living Education
Center for Women's and Family Living Education
University of Wisconsin Extension, Madison

Introduction

Wisconsin's Educational Telephone Network (ETN) facility, which may be thought of as a party line connecting centers throughout the state, offers unique opportunities to reach individuals with educational courses or programs. This paper is a report of two studies by this writer to assess the effectiveness and acceptance of the telephone in adult education. In one case a graduate course in home economics education was offered for home economics teachers and in the other a non-credit seminar was presented to home economists not presently in gainful employment.

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Research Questions

The studies sought to answer these questions:

1) Can the educational telephone be an effective means for adult education?

2) How would adults react to the telephone as a teaching medium?

Related Studies

The telephone has been used successfully for in-service training by Pellett[1] at Wisconsin and in Portland, Oregon.[2] It can widen students' experiences by bringing to them resource persons that would not otherwise be available in the classroom.[3] In 1958 Stephens College in Columbia, Missouri, used the telephone lecture in undergraduate courses.[4] The Universities of Kentucky[5] and Wisconsin[6] have demonstrated the potential of the telephone and Victor Electrowriter Remote Blackboard in conducting classes. Almost no research was reported prior to 1969 in teaching of graduate students or adults by means of telephone. To date little effort has been made to assess reaction of adult students to the telephone as a teaching medium.

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The rapid accumulation of knowledge and tremendous pace of technological advancement multiply the problem of keeping up to date in any professional field. These situations, coupled with interruption in professional pursuit experienced by many women, often create acute problems, particularly in a field as dynamic as home economics. A need exists, therefore, to utilize innovative means for helping the professional home economist keep abreast of new knowledge. As Willis stated in 1964: "...better ways must be found for more people to know more in less time through more avenues for reaching the individual, at the point of greatest need."[7]

Research Design - The Graduate Course

A graduate course, New Perspectives in Home Economics and Its Teaching, was team-taught by two instructors to fourteen full-time home economics teachers in a center fifty miles from the central campus. For this group there was no face-to-face contact with the instructor. Another section of the course was taught on the central campus with the instructor present in the classroom.

Assignments and course content were the same for both groups. Out-of-class assistance was available for both groups upon request; for the experimental group by telephone and for the control group by office conferences.

Evaluation of Achievement

Evaluation was based on a pre and post test, periodic student evaluation of course content and procedures, and evaluation by instructors.

All presentations by the instructors and all discussion by students in both groups were recorded on audio-tape. Student participation was analyzed for cognitive levels attained.

As an aid in analyzing these recordings of all class discussions of both groups, students were asked to identify themselves at the beginning of their contributions. Each student contribution was classified as to cognitive level, according to Bloom's Taxonomy of Educational Objectives, and as either

being a "response" or "initiated" contribution. A response comment was identified as the direct result of a question or a remark of either the instructor or another student. An initiated contribution was a question or other comment not in direct response to a previous comment. Two evaluators made classifications separately and resolved differences. Eleven of the fifteen sessions were analyzed by the evaluators. It is difficult to estimate the number of comments that were not classifiable due to recording difficulties and this resulted in a less complete analysis than was desirable.

Analysis showed that student comments from both groups expressed learning predominatly at the comprehension level. This was of particular concern to the instructors since they believe that higher levels of cognition should be evident in student responses. Student-initiated contributions tended to be judged at higher cognitive levels than were student response contributions. In both response and initiated contributions, however, there appeared to be little difference between experimental and control groups.

The purpose of the pre and post test was to assess students' changes in points of view, insights and awarenesses of educational ideas related to teaching. A projective technique appeared to be the most appropriate device involving minimum structuring. Assessment was in relation to quantity and variation of responses. The changes which occurred between pre and post test are considered as indications of differences in perceptivity of the teaching situation. The projective device consisted of two parts, one a picture of a classroom, and the second, two educational quotations.

Students in the experimental group became more homogeneous, focusing more attention on teacher role and function. Control students became more heterogeneous and focused more on the type of class being described. On the retest, both groups gave less attention to mechanical aspects of the situation and more frequently mentioned internalizing learning as a value for both students and the teacher. In both groups a larger number of implications were

drawn on the retest and students made more responses. There were actually fewer differences noted in the two groups than was expected.

It was noted that members of the experimental group sought out-of-class assistance thirty-one percent more frequently than members of the control group.

Evaluation by Students

Students responded to an open-end item, "My general reaction to this class and the technique by which it is being taught . . ." periodically throughout the course. Responses were classified in the following categories: course content; assignments; environment (climate of the classroom); presentation, including mechanical and non-mechanical aspects; and general. In the general category were placed comments related to attitudes toward the class, discussion, organization, stimulation felt, etc. Each student comment was identified as being essentially positive (favorable) or negative (unfavorable) and assigned to the appropriate category. More than twice as many positive as negative comments were made by students.

Mechanical aspects of presentations were mentioned most frequently by students in both groups, with more negative statements received from the experimental group.

Fewer written comments of any kind were received from the control group than from the experimental group. Students in the experimental group continued throughout the course to miss the physical presence of the instructor in the room, with this feeling expressed more strongly by some students than by others.

Evaluation by Instructors

Both instructors felt the experimental group reached higher achievement levels than the control group. Communication appeared to be good with both groups throughout the semester. Increased time for orientation to mechanical aspects by both students and instructors would have been beneficial in enhancing quality and avoiding problems.

The Non-credit Seminar

The non-credit seminar, Home Economics' Role in Meeting the Challenges of Societal Change, consisted of three two-hour sessions offered over a period of three weeks.

The purpose of the seminar was to develop increased awareness among non-employed professionals of the dynamic changes in the field of home economics today and the reasons for and dimensions of these changes. Three sessions, entittled: "Societal Changes Affecting Family Living Today," "Educational Programs in Home Economcis Today," and "Directions and Decisions for Home Economists," were held. Nearly three hundred home economists participated from seventy locations throughout the state.

The program moderator and most of the speakers participated from the transmitting station in Madison, althought a few of them spoke by telephone from other ETN facilities. Two program speakers participated by regular long distance telephone from their home or office.

Evaluation

A Program Evaluation Checklist (PEC), provided for evaluation of six aspects of the series - environment of the classroom, lecturer, effectiveness of the local convener, program content, program process, and technical aspects of the telephone medium. In addition, responses were solicited from program participants about general strengths and weaknesses of the seminar, how it was received by those attending at each receiver, and additional comments they wished to make.

The program process, or format, was the area identified as needing the most correcting. Format appears to be a critical factor in telephone teaching. Also needing attention were amount of time for and ways to get increased student involvement in discussion, better outlining by speakers of what they intended

to "cover" so students could follow program process more easily, and better training of local program convener so that this individual took active responsibility as a group leader. This evaluation tool permits a great many things to be learned about one's efforts that can have a bearing on future programming, and appears to be a useful device in assessing program quality and educational usefulness.

On the free response evaluation, respondents sought future programs on specific aspects of home economics content, they asked for more visual materials to study prior to the program, and for outlines of program content as aids in following presentations by speakers. These requests all seemed to indicate that whatever can be done to ease the remoteness felt by students will enhance programs transmitted by telephone.

Conclusions From the Studies

The following conculsions appear appropriate. Each appears to have research implications.

1. Ways to handle content and format for telephone courses need to be identified and implemented so that participants profit most from such educational opportunities.

2. Participants and program lecturers need preparation for mechanical aspects of such experiences.

3. Certain types of individuals appear to function more effectively with articulated media than others.

4. Visual aids enhance presentations and ease remoteness created when the instructor is not present with students.

5. Certain skills appear to be learnable which enable individuals to increase their effectiveness when the telephone is being utilized as a teaching medium.

6. The educational telephone appears to be a useful medium for providing adult education opportunities for individuals scattered over wide geographic areas and its use should be further refined, expanded and evaluated.

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